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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,179	06/26/2000	Ashok V. Joshi	991476	3372

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EXAMINER

SOUBRA, IMAD

ART UNIT

PAPER NUMBER

1744

DATE MAILED: 03/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF=11

Office Action Summary

Application No.

09/603,179

Applicant(s)

JOSHI, ASHOK V.

Examiner

Imad Soubra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-18, 23-39, 44-51 and 54-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Weinberg et al. Weinberg et al teaches the same device of sterilizing substance using an electrochemical unit that includes an anode and cathode in the device. Weinberg teaches that the scrubber function may also be an integral part of the electrochemical cell design, particularly where one of the electrodes of the cell, 10 is porous, such as for example, a gas diffusion electrode or air cathode design as constructed for use in fuel cells and metal/air batteries; here, the gas diffusion electrode serves both as the electrode and an effective wet scrubber when contaminated air is contacted with the non-wetted side of such electrodes; another integrally located wet scrubber when contaminated air is contacted with the non-wetted side of such electrodes; another integrally located wet scrubber configuration comprises inert microporous hollow fiber bundles or an inert packing situated between anode 12 and cathode 14 of electrochemical cell 10 located in aqueous electrochemical cell 10 located in aqueous electrolyte 16 in a compartmented cell as illustrated with a separator 18, or uncompartmented cell in the illustrated with a separator 18, or uncompartmented cell in the absence of such separator where the contaminated air passes the inert

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microporous hollow fiber bundles or bubbled through the inert packing in the aqueous electrolyte; these integral air purifier designs are especially useful where smaller, more compact air purification units are desired, as for example, in portable gas mask and completely enclosed environmental suit (column 9, line 53-column 10, line 5). Weinberg et al further teaches that the scrubber liquid-electrolyte comprises as a principal component at least one-electrochemically regeneratable degradant-previously defined, which can be, for example a redox couple; suitable electrochemically regeneratable redox degradants may include any of the known redox couple; suitable electrochemically regeneratable redox degradants may include any of the known redox based on chromium, cerium, vanadium, cobalt, manganese, iron, nickel, silver, etc. and which when in their "active" form i.e. higher valence or higher oxidation state are capable of being reoxidized to their active form after undergoing reduction by chemical reaction with a contaminant (column 10, line 26-column 10, line 42). Weinberg also teaches that to power the electrochemical cell, a suitable DC power supply or pulsed power supply may be used (column 14, lines 10-15). The reference teaches that in addition to gas mask and environmental suits, the air purification systems of this invention, both integral and nonintegral, are readily adaptable to heating and cooling systems of residential and nonresidential buildings; for instance, air circulation ducts of a forced air heating system of a hospital or other large building can be equipped with such an air purifier, so that heater air returning rooms will be free of pollutants; individual room humidifiers for the house for adding moisture to the air can also be equipped with the air treatment systems of this invention (column 17, lines 13-24).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- Determining the scope and contents of the prior art.
- Ascertaining the differences between the prior art and the claims at issue.
- Resolving the level of ordinary skill in the pertinent art.
- Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 19, 20-22, 40-43, 52-53 and 59-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberg et al in view of Stein et al. Weinberg et al fails to disclose the fragrance dispenser and fan in his patent. However, the patent of Stein et al intrinsically discloses both these elements in his invention. Stein et al teaches that in an air conditioner having a fan for circulating conditioned air and a panel positioned in the flow created by said fan, said panel defining a front side and a rear side, an adjustable fragrance dispenser mounted to said panel (see claim 13). Further, the

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motivation for combining the two references would be to dispense a pleasing fragrance in the circulating air to mask odors therein (column 1, line 40-44). Therefore, it would have been obvious of one having ordinary skill in the art at the time the invention was made to incorporate the fan and fragrance dispenser of Stein et al into the device of Weinberg et al in order to make the environmental more pleasing for the consumer (column 1, lines 29-66).

Applicant's Arguments

3. Independent claims 1 and 23 were amended to claim a sanitizing device comprising a chemical cell only. Similarly, independent claim 46 was amended and independent claim 56 was added to claim a sanitizing device comprising a corona cell only.

4. Independent claims 55 and 64 were added to claim a more specific embodiment of the current electrochemical cell. The claims teach the inclusion of an electrochemical cell, wherein the electrochemical cell is capable of producing an electric field. As is commonly known in the art, electrochemical cells produce an electric field during operation. The field exists between the anode and the cathode of the cell, as well as in the area immediately surrounding the cell. In the present invention, the field, and, more particularly, the ions transported thereby, are used as a sanitizing agent so that, when the particular ions contact the substance, it becomes sanitized.

5. Contrarily, the present invention operates to sanitize contaminants by the generated effects of Applicant's sanitizing device—e.g. corona discharge, ion generation, etc.

6. To require the incorporation of the contaminants into Applicant's cell would frustrate the purpose of the invention, that is to sanitize upon contact with the discharge effect of the cell.

7. Applicant submits that the rejected claims all depend from independent claims 1 and 23, and as such contain all of the limitations of those claims. Further pursuant to the discussion contained above independent claims 1 and 23, along with added claims 47-65, are now in condition for allowance.

Response to Applicant's Arguments

3. When the applicant uses the transitional phrase "comprising", the claim language is written in open language form meaning anything in the universe can be employed with those limitations as claimed by the applicant. The term "only" is not written in the claim so the Examiner cannot consider the "only" limitations but other elements with corona cells and chemical cell are sufficient enough to read on the claim. As for the corona cell, please see the figure that has the reference numerals labeled as 12 and 14. As for the chemical cell, please see the figure that has the reference numeral labeled as 16.

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4. The Weinburg et al reference does show all these combination of elements in which the apparatus produces an electric field. This teaching is found in column 9, line 53 – column 10, line 26.

5. The Weinburg et al teach the same concept because it has been discovered that the scrubber liquid-electrolyte may contain performance-enhancing combinations of more than one redox couple (column 11, lines 6-8). The reference also suggests while the expression "performance enhancing combinations" concerns accelerating the rate of destruction or more complete destruction of toxic substances absorbed by the scrubber liquid-electrolyte than with one of the same redox couples used alone (column 11, lines 16-21).

6. Why would it frustrate the purpose of the applicant's claimed invention? What applicant is claiming does read on the reference of Wienburg et al.

7. The claims still read on the references and the rejection will be maintained.

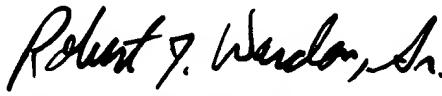
Conclusion

Any inquiry concerning this communication from the examiner should be directed to Imad Soubra whose telephone number is (703) 305-3541. The examiner can normally be reached on 8:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (703) 308-

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2920. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-5665.

Imad Soubra
March 14, 2002


ROBERT J. WARDEN, SR.
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